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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/690,061 | 10/21/2003 | Masahiro Yasohara | MAT-8474US | 3490 |

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| EXAMINER |
|-------------------|
| MCCLOUD, RENATA D |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2837 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 03/01/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/690,061 | YASOHARA ET AL. | |
| | Examiner | Art Unit | |
| | Renata McCloud | 2837 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 7-34 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,4,6 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsiao et al (US 6437611).

Claim 1: a gate driver comprising a first current source (fig. 2:220) outputting a first current value to raise an potential of a gate electrode by changing a shut off state of a transistor (240) to a conductive state (col. 2:57-59, turn on; col. 3:50-54); a second current source (fig 2:225) outputting a second current value to lower a potential of a gate electrode by changing a conductive state of a transistor (240) to a shut off state (col. 2:59-62, turn off; col. 2:63-66); wherein a first time period (time period of 220) from the shut off state to the conductive state of the transistor (240) is controlled with the first current value (fig 2: value from 220) and a second time period (time period of 225) from the conductive state to the shut off state is controlled with the second current value (fig 2: value from 225; col. 3:60-4:11).

Claim 3: the first and second current sources are formed by at least a monolithic integrated circuit (col. 2:28-36) and at least one piece of current source information supplied from outside the circuit (col. 2:47-49) assigns the first and second current values (fig. 2:260,265)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Hsaio et al in view of Kogushi (US 6236239).

Claim 5: Hsaio et al teach the limitations of claim 1. Referring to claim 5, they teach the current source information is fed into two input terminals (fig. 2: 260,265) that receive a control signal (fig. 2:47-49), each of the input terminals is coupled with a passive element (fig. 3a: 391,392). They do not teach a passive element which assigns the first and second current values. Kogushi teaches current source control information is fed into two input terminals (VP, VN) that receive a gate driver control signal (from 3/15/16) and each one of the input terminals (VP, VN) is coupled with a passive element (17,18) which assigns the first and second currents (col. 2:39-46, 3:59-65, 4:6-20). IT would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Hsaio et al to include resistors as taught by Kogushi et al in order to adjust the current to the drivers.

Allowable Subject Matter

5. Claims 2,4,6 are allowed. The following is an examiner's statement of reasons for allowance: the prior art fails to teach or make obvious the combination of: said claimed coupler outside a gate driver; said claimed interior structure; wherein the first and second current sources are assigned by the current assignor and their outputs are controlled by a switch control signal; the current assignor receives current control information via each input terminal except one through which the switch control signals is supplied and a group of output signals of the current assignor are controlled based on the current source information; the gate circuit is a NOT circuit; first terminal of the first current source is coupled to a power supply of the gate

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driver and a second terminal of the first current source is coupled to a first terminal of the second current source, a second terminal of the second current source is coupled to the source electrode of the transistor via a connecting section to the source electrode; a junction point of the second terminal of the first current source and the first terminal of the second current source is coupled to the gate electrode of the transistor via the connection section to the gate electrode; said claimed case of the switch control signal being a high level; and said claimed case of the switch control signal being a low level.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

6. Applicant's arguments with respect to claims 1,3,5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

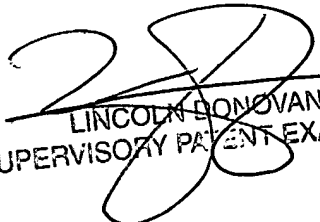
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Renata McCloud
Examiner
Art Unit 2837

rdm


LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER